

WHAT WE CLAIM IS:

1. A treatment or controlling device capable of insertion into a teat orifice,

the device also capable of being held in position in the teat streak canal
once inserted therein

characterised in that

the device is configured to act as a substrate for natural keratin
deposition.
2. The device as claimed in claim 1 wherein the device is configured to
deliver one or more treatment substances to the streak canal.
3. The device as claimed in claim 2 wherein the device is designed to
deliver said one or more treatment substances for a period of time
necessary to allow endogenous keratin plugs to form.
4. The device as claimed in any one of claims 1 to 3 wherein the device is
composed of a matrix that is configured to degrade over time, and
integrate with endogenous keratin to form a composite plug.
5. The device as claimed in any one of claims 1 to 4 wherein the device is
configured to act as a physical barrier to prevent the unwanted passage
of substances through the streak canal.
6. The device as claimed in any one of claims 1 to 5 wherein the device is
made of a preformed matrix.

7. The device as claimed in claim 6 wherein the matrix is silicone.
8. The device as claimed in claim 6 or claim 7 wherein one or more treatment substance(s) are contained within the inner core of the device.
9. The device as claimed in claim 6 or claim 7 wherein the matrix is impregnated with said one or more treatment substances.
10. The device as claimed in claim 9 wherein said one or more treatment substances are delivered by diffusion from the matrix.
11. The device as claimed in claim 9 wherein said one or more treatment substances are delivered through dissolution of the matrix.
12. The device as claimed in any one of claims 2 to 11 said one or more treatment substances are selected from a list including antibiotics, antibacterial substances, tissue growth enhancers, vitamins, minerals, hormones, oxytocin, prolactin, and healants.
13. The device as claimed in any one of claims 1 to 12 wherein the device is configured to withstand the build up of milk pressures immediately post-drying off without the device being ejected.
14. The device as claimed in any one of claims 1 to 13 wherein the device is configured to be dislodged from the streak canal by the milk pressure generated as a consequence of lactogenesis.
15. The device as claimed in any one of claims 1 to 14 wherein the device includes one or more surface features to enhance the retention of the device.

16. The device as claimed in claim 15 wherein said one or more surface features include one or more grooves.
17. The device as claimed in claim 15 or claim 16 wherein said one or more surface features include a spiral thread.
18. The device as claimed in any one of claims 15 to 17 wherein said one or more surface features include a plurality of protrusions.
19. The device as claimed in any one of claims 15 to 18 wherein said one or more surface features are configured so as to cause minimal dislodgment of keratin at insertion and integrate with endogenous keratin.
20. The device as claimed in any one of claims 1 to 19 wherein the device is configured to allow the surrounding smooth muscle layer of the streak canal to form naturally and without irritation around the body of the device.
21. The device as claimed in claim 20 wherein the device is configured to fit entirely within the streak canal.
22. The device as claimed in claim 20 wherein the device includes one or more structural features at least part of which protrude from the streak canal.
23. The device as claimed in claim 22 wherein said one or more structural features include a bulb.

24. The device as claimed in claim 22 or claim 23 said one or more structural features include a teat cap.
25. The device as claimed in claim 24 wherein the teat cap is configured to be releasably attachable.
26. The device as claimed in claim 24 or claim 25 wherein the teat cap is releasably attached using epithelial adhesives.
27. The device as claimed in any one of claims 1 to 26 wherein the device includes a recess which extends at least part of the axial length of the device.
28. The device as claimed in of claim 27 wherein the recess acts as a reservoir to hold one or more treatment substances.
29. A device as claimed in claim 27 or 28 wherein the recess extends substantially the axial length of the device to form a conduit.
30. The device as claimed in claim 29 wherein the conduit permits the passage of instruments, applicators, other devices, one or more treatment substances.
31. The device as claimed in claim 29 wherein the conduit allows the passage of milk.
32. The device as claimed in claim 29 or 30 wherein the conduit allows the animal to be milked while the device is in position.

33. A device as claimed in any one of claims 29 to 32 wherein the external aperture of the conduit exerts control over teat orifice dilation and/or closure to control and/or improve milk harvesting.
34. The device as claimed in claim 33 wherein the aperture has a two-way valve system.
35. The device as claimed in claim 33 or claim 34 wherein the aperture is operated by vacuum pulsation.
36. The device as claimed in claim 33 or claim 34 wherein the aperture is operated by an inductive pulse.
37. A method of treating an animal using a device as described in any one of claims 1 to 36.
38. A method of treating an animal using a treatment or controlling device, characterised by the step of

inserting said device into a teat orifice during involution, the device capable of being held in position in the teat streak canal once inserted therein and wherein the device acts as a substrate for natural keratin deposition.
39. A method of treating an animal as claimed in claim 38 including the further step of delivering one or more treatment substances to the streak canal.

40. A treatment or controlling device substantially as described herein with reference to and as illustrated by the accompanying description and drawings.
41. A method of treating an animal substantially as described herein with reference to and as illustrated by the accompanying description and drawings.